WHAT IS CLAIMED IS:

1. A digital image processing method for locating human eyes in a digital image, comprising the steps of:

a) detecting a skin colored region in the image;

b) detecting human iris color pixels in the skin colored region;

c) forming initial estimates of eye positions using the locations of the detected iris color pixels in the skin colored region;

d) estimating the size of each eye based on the distance between the estimated initial eye positions;

e) forming a first search window for one eye, the center of the window being the estimated initial position for the one eye and the size of the window being proportional to the estimated size of the one eye; and

f) employing a template to locate an eye in the first search window.

2. The method claimed in claim 1, further comprising:

g) forming a second search window for another eye; the center of the window being the estimated initial position for the other eye and the size of the window being proportional to the estimated size of the other eye; and

h) employing a template to locate another eye in the second search window.

3. The method claimed in claim 1, further comprising the step of finding an oval shaped skin color region, and locating eyes in only the oval shaped skin color region.

4. The method claimed in claim 2, wherein the step of forming initial estimates of eye positions comprises the steps of:

a) grouping the detected iris color pixels into clusters;

b) finding the center of each iris color pixel cluster;

c) dividing the oval region into a left-half and a right-half along a major axis of the oval region; and

d) forming the initial estimates of eye positions based on the location of the centers of the clusters in relation to the left and right halves of the oval region.

5. The method claimed in claim 1, wherein the step of detecting human iris color pixels, comprises the steps of:

c1) deriving probability distributions of iris and noniris colored pixels from a number of sample images; and

c2) using the derived probability distributions in a Bayes model to produce a look up table indicating the probability that a given pixel is an iris colored pixel.

6. The method as claimed in claim 2, wherein the step of employing a template to locate an eye in a search window comprises determining a plurality of eye locations in the search window that give a desired matching response to the template.

7. The method as claimed in claim 6 further comprising the step of finding a best pair of eye locations, one eye location from each window.

8. The method as claimed in claim 7, wherein the step of finding the best pair of eye locations includes computing a plurality of figures of merit for each pair of eye locations and summing the figures of merit for each pair of eye locations.

9. The method as claimed in claim 8, wherein the step of computing a plurality of figures of merit selected from the group comprising: orientation, proximity, combined matching score, proportion, profile, and evidence of mouth.

10. The method as claimed in claim 9, wherein the step of computing a proximity figure of merit includes measuring the proximity of the

located eyes to the estimated initial eye positions.

11. The method as claimed in claim 9, wherein the step of employing a template to locate an eye in a search window comprises determining a plurality of eye locations in the search window that give a desired matching response to the template, and wherein the step of computing a combined matching score includes summing up individual matching scores.

12. The method as claimed in claim 9, wherein the step of computing a proportion figure of merit includes providing an anthropological eye distance model, and computing a value representing the match between a distance between the located eyes with the anthropological eye distance model.

13. The method as claimed in claim 9, wherein the step of computing a profile figure of merit includes: providing a pre-determined model of an eye-to-eye profile; determining an actual eye to eye profile; and computing a goodness-of-fit between the actual eye to eye profile to the eye to eye model profile.

14. The method as claimed in claim 9, wherein the step of computing an evidence of mouth figure of merit includes: computing values representing strength and orientation of edges within a mouth window determined by a pair of eye locations.

15. The method as claimed in claim 6 wherein the desired matching response is a local maximum matching score.